

Installation Guide / User Manual

Metacon E60



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1 Foreword

Metacon B.V. only supplies products for “brokering”, meaning that only semi-finished products are supplied, not complete products.

If the installation and controlling mechanism is provided by a third party, the manufacturer will only deliver a 2B declaration. It's the responsibility of the installation company to apply CE-marking, form an A2 declaration.

Metacon B.V. can't be held responsible for hazardous situations, accidents, damage or injuries caused by:

- Neglecting the warnings and instructions as stated on the product itself or in the manual;
- Insufficient maintenance;
- 3rd party modifications made to the rolling shutter, this includes the use of other than prescribed replacement parts (battery) and modifications to the controlling mechanism (steering unit).
- Improper installation or handling of the product.

Reference documents :

- NEN-EN 13241-1; NEN-EN 12453; NEN-EN12445;
- RoMaZo warranty card (warranty);
- Delivery document and declaration of conformity (on demand).
- Situational / construction drawing
- Order confirmation
- User manuals by motor and steering unit suppliers for configuration of any supplied driving / steering unit.
- User manual for any supplied accessories

The installation company and end user are to follow the instructions in the user manual. Don't hesitate to contact Metacon B.V. in case of doubts or questions. The user manual must remain with the fire resisting rolling shutter at all times.

Please refer to the website : www.metacon.nl

2 Introduction

This flame-resistant rolling shutter is mainly intended to seclude adjacent spaces in case of fire or smoke detection. Its main purpose is to prevent flames to skip to adjacent areas. The flame-resistant rolling shutter can be integrated in a central fire detection installation but may also be used as stand-alone solution.

The CE-marking that is applied is only valid for the rolling shutter function, not for the flame resisting properties.

3 Technical specifications

Armor :	Its armor, European patented, is built up out of galvanized steel profiles, 1mm thickness. End caps in galvanized steel prevent the armor from shifting sideways. The armor is reinforced at the bottom by 2 L-shaped profiles.
Motion system :	Comprised of 2 side guides en 2 supports that are mounted on the wall or ceiling. The supports hold the bearing or anti-fallback device and the tubular motor.
Side guide :	G-shaped, cold formed galvanized steel profiles, 2mm thickness.
Labyrinths :	Above the clear opening a labyrinth is installed, formed by a steel flame barrier installed on the wall and a steel flame barrier on the top of the armor. This way flame passage is prevented in case of fire.
Motors :	Standard 230V tubular motors or 400V safe drives/chain wheel drives.
Steering unit :	Any type depending on the customer's needs.
Dimensions :	Applicable for widths of 8m and heights of 8m (max 50m ²). Other dimensions available through project specific research.

4 Safety

When installing a flame-resistant rolling shutter one needs to follow the safety precautions (personal protection, approved slings, approved hoisting and lifting material, marked out working area, etc). The instructions given in this document are to be followed strictly. When installing electrical components, the instructions provided by the supplier must be followed. Any damage or injury caused by neglecting the instructions in this user manual, can never be held against the manufacturer of the flame-resistant rolling shutter.

4.1 Safety precautions

- Anti-fall back device with micro switch (must always be connected).
- Covers for chain wheel setup; encasing of shaft and drive (NEN-EN294)

4.2 Safety regulations

- Avoid entrapment. The shutter may only be closed when no personnel remains in the room/building.
- When doing maintenance or inspections, the entire installation must be made disconnected from the voltage.
- While operating the shutter controls (key switch or push button units), the operator must have a clear view towards the shutter.

4.3 Remaining risks

Normal use :

- Entrapment can occur when the flame resistant rolling shutter is closed. Depending on its application, additional safety measures / components have to be installed as required by law.

Maintenance :

- In normal use electric shocks are impossible.
- When doing maintenance or inspections the entire installation has to be voltage free. Chance on electric shocks is very small.
- By preference the entire installation is grounded.

5 Product

The flame resistant rolling shutter is a vertical closing shutter intended as barrier for openings in walls. Under normal conditions the shutter is rolled up and in open position. The side guides and labyrinths provide the sealing of the wall.

The flame resistant rolling shutter consist of the following parts :

Part	Description	Amount	Reference
1	Pair of side guides	1	
2	Support left	1	
3	Support right	1	
4	Main shaft	1	
5	Armor (multiple sets)	X (height dep.)	
6	End caps	X (armor set dep.)	
6	Flame barrier	1	
7	Tubular motor 230V	1	
8	Anti fall back device	1	
9	Steering unit	1	
10	Control unit	1	

There's a variety of available accessories :

Part	Description	Amount	Reference
11	Temp. Detector	-	
17	Smoke detector	-	
18	Various signaling	-	
19	Light curtains	-	
20	Safety edge systems	-	

6 Commissioning

Before commencing the installation of the flame resistant rolling shutter, please verify the following :

- Check all parts according to the delivery note or the order confirmation, or check the list of parts in section 5 of this user manual.
- Verify the dimensions : main clearance, available space on the sides and above the clearance (see delivery note or order confirmation).
- In case the order stated that the armor comes preinstalled on the main shaft, the rolled up package will be tied together by straps. **DO NOT REMOVE** these straps prior to the installation !

6.1 Essential tools for the installation

Here you'll find a list of the most commonly used tools for an installation of a flame resistant rolling shutter :

- Rotary drill with different sizes of drills (depending on the surface)
- Extension cord
- Fasteners to mount the side guides and supports onto the wall (depending on the surface)
- Tools to store away and secure the electrical cables/ wiring.
- Standard toolbox
- Ladder, aerial platform, forklift (*)

(*) When installing very large flame resistant shutters, the use of approved slings is mandatory. This according to the European safety regulations.

The list of tools is only intended as a reference. Depending on the installation, more specific tools may be required.

6.2 Verification of the working area

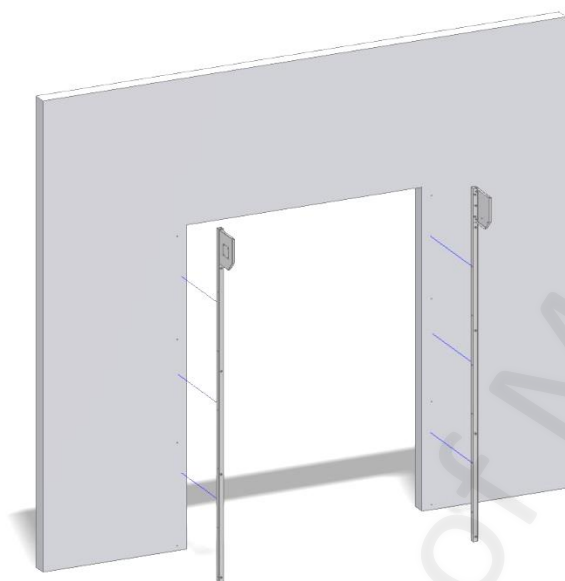
- Check the main clearance dimensions and available clear spaces (side/top).
- Verify that all the necessary electrical connections are present.
- Check whether there are any obstacles in the main installation area.
- Verify that the main subsurface is suitable for the installation.
- Check if the walls are perpendicular.

7 Installation procedure

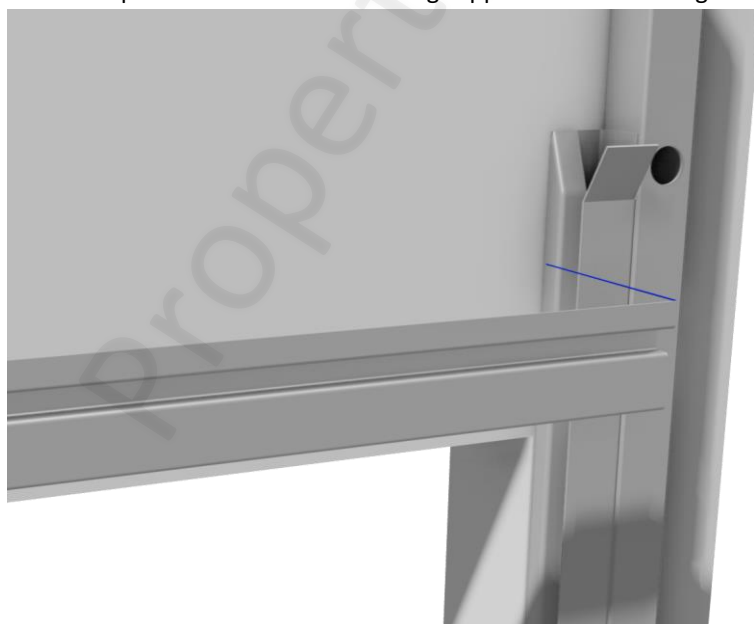
After the verification of the working area, the installation of the flame resistant rolling shutter can commence.

Attention ! Fasteners are only supplied on demand (optional). Do not use fasteners that can't withstand high temperatures.

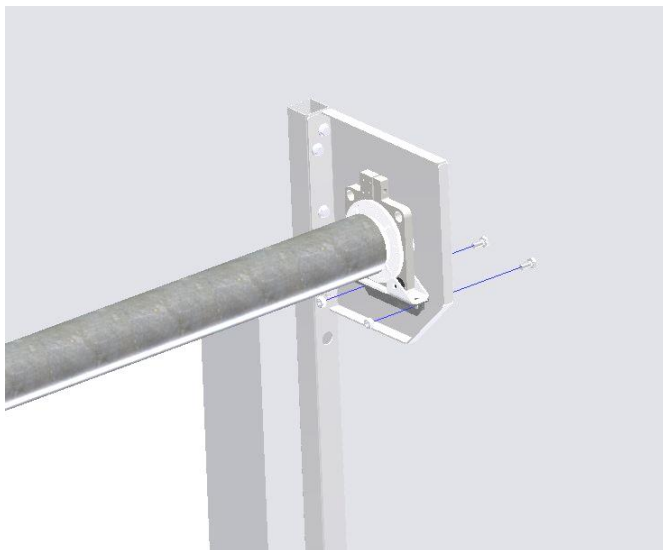
Step 1 : Install both the supports. Ensure these are placed perpendicular.



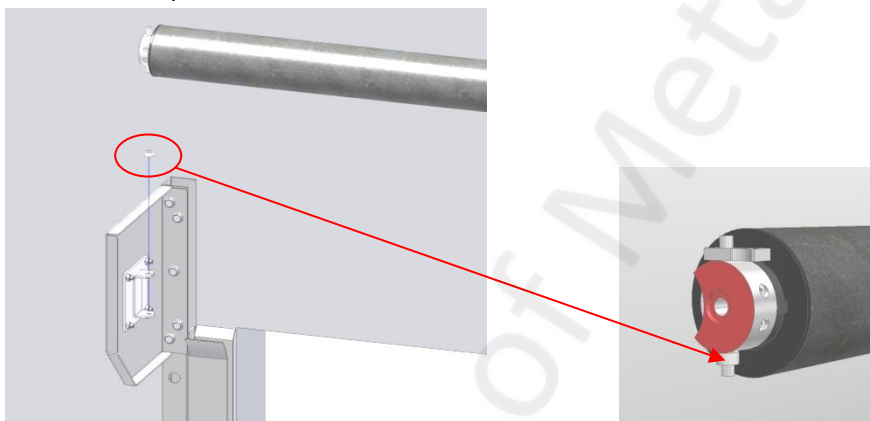
Step 2 : Install the labyrinth perpendicular between the two side guides. Please verify the exact position on the main drawing supplied with the rolling shutter.



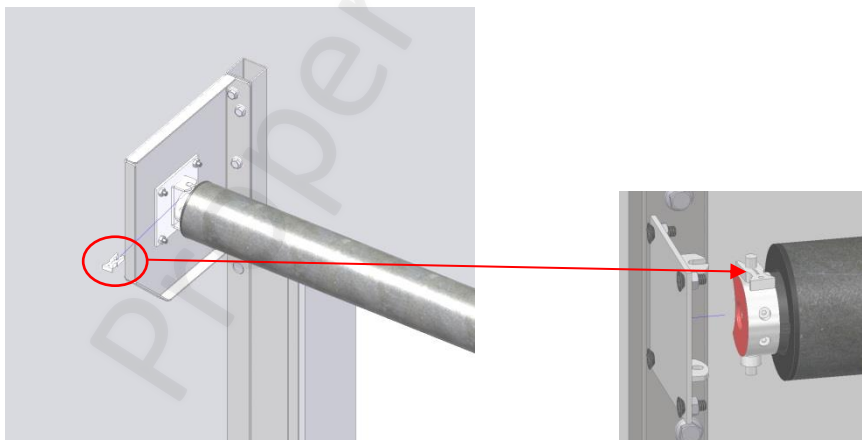
Step 3 : Install the bearing unit or anti-fallback device on the opposite side of the motor.



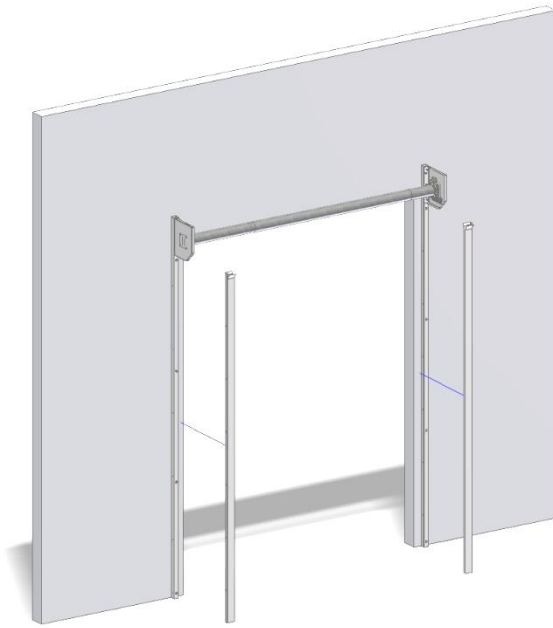
Step 4 : Install the main shaft. Be sure to place the plastic ring on the bottom side of the motor clamp.



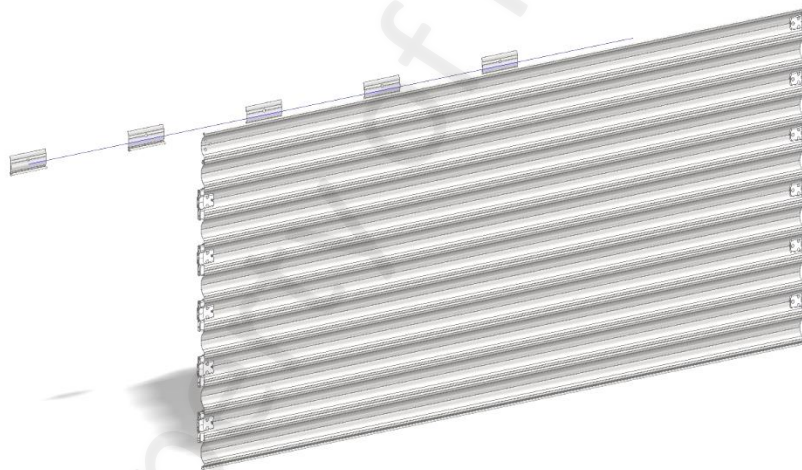
Step 5 : Attach the linchpin on the top side of the motor clamp. Put the motor into service (refer to the specific instructions for connecting the motor. These are supplied by the motor manufacturer).



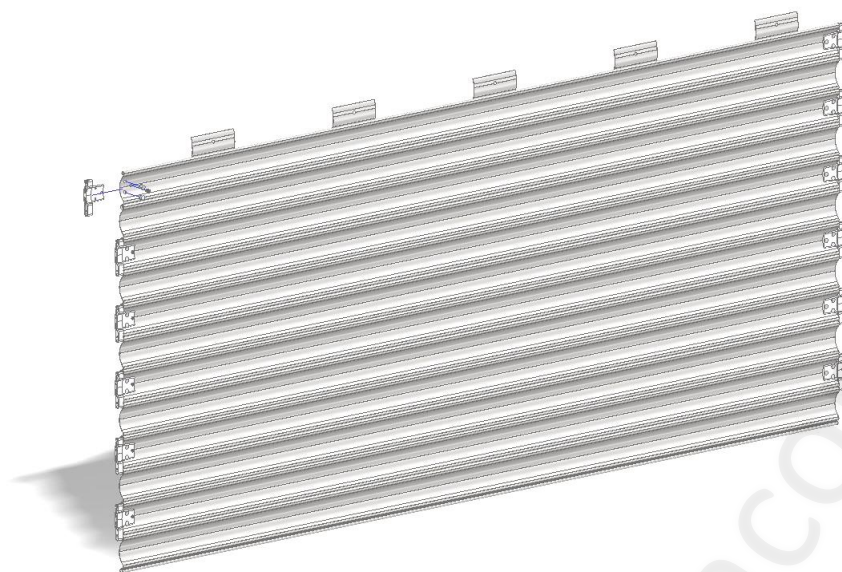
Step 6 : Remove the side guides from the supports



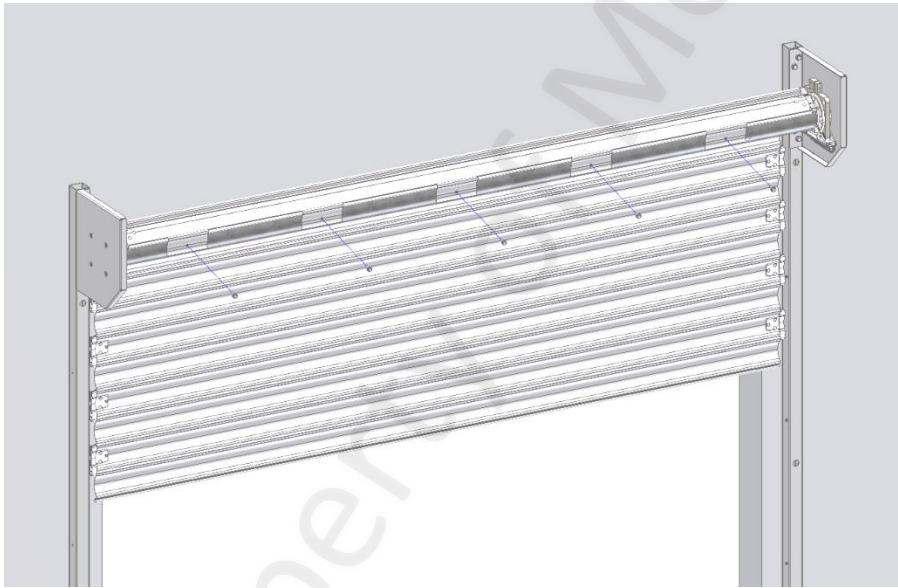
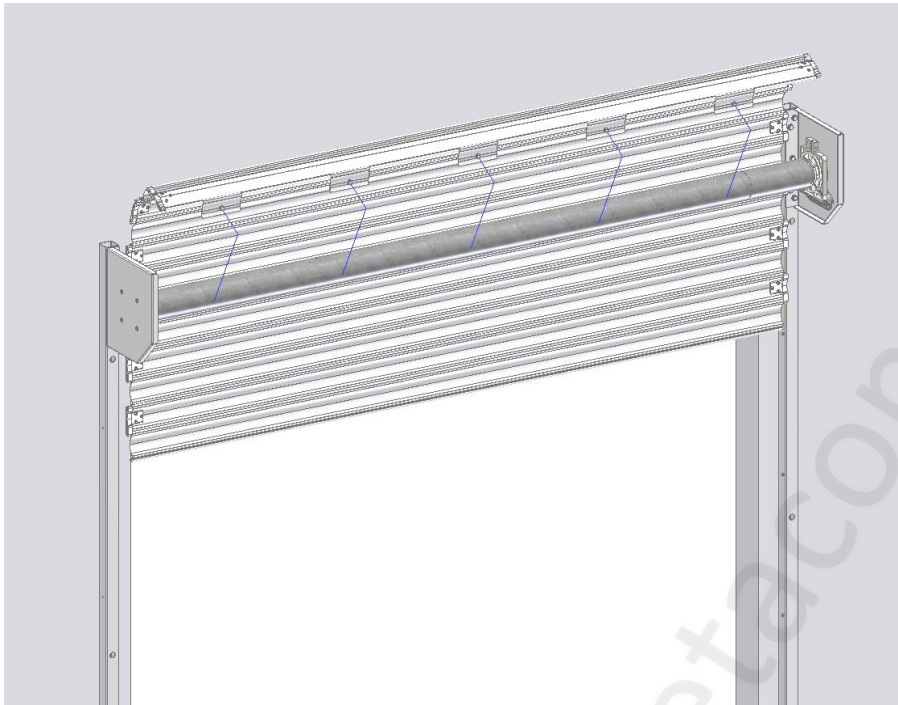
Step 7 : Slide the connection clamps onto the first armor set (The first armor set can be identified by the Z-shaped flame barrier installed on one of the armor profiles.



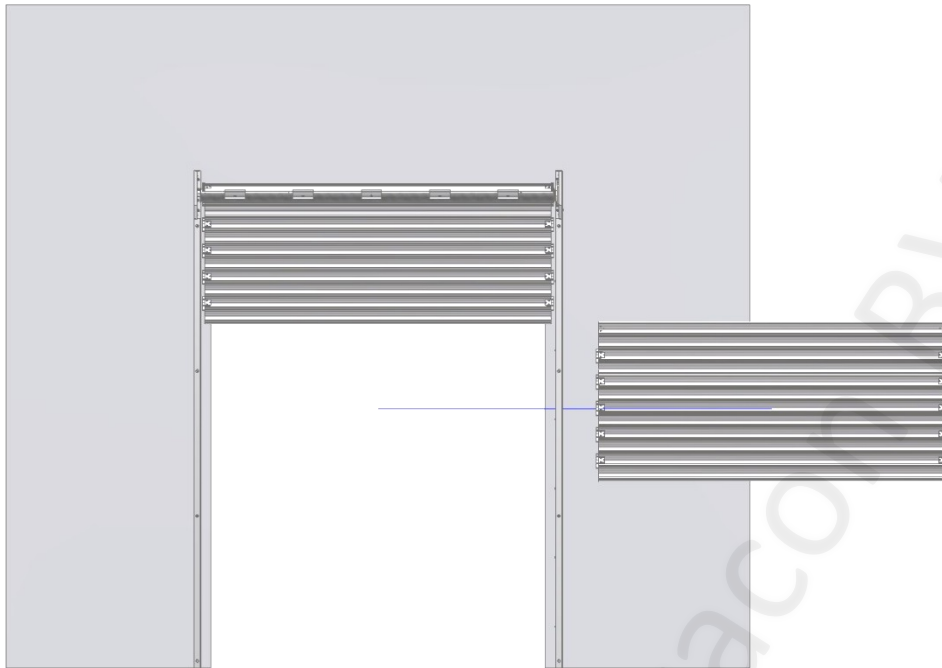
Step 8 : Install the armor end clamps on the last profile of the armor set



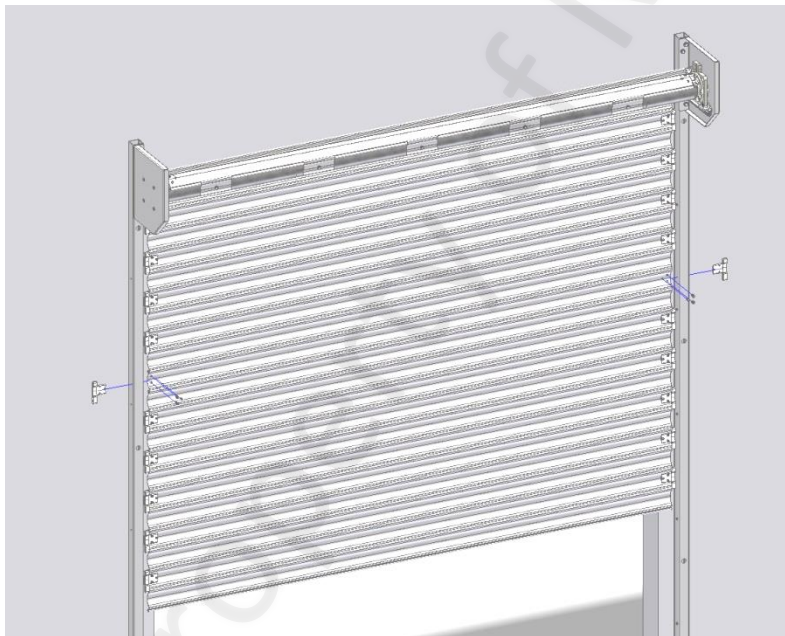
Step 9: Place the first armor set around the main shaft. Use the supplied bolts to attach the connection clamps onto the main shaft.



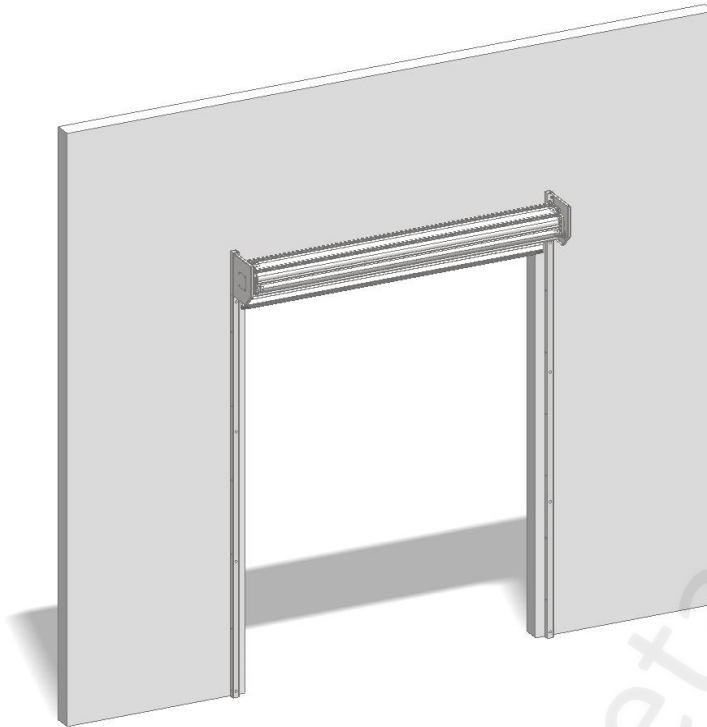
Step 10 : Slide the second armor set in place.



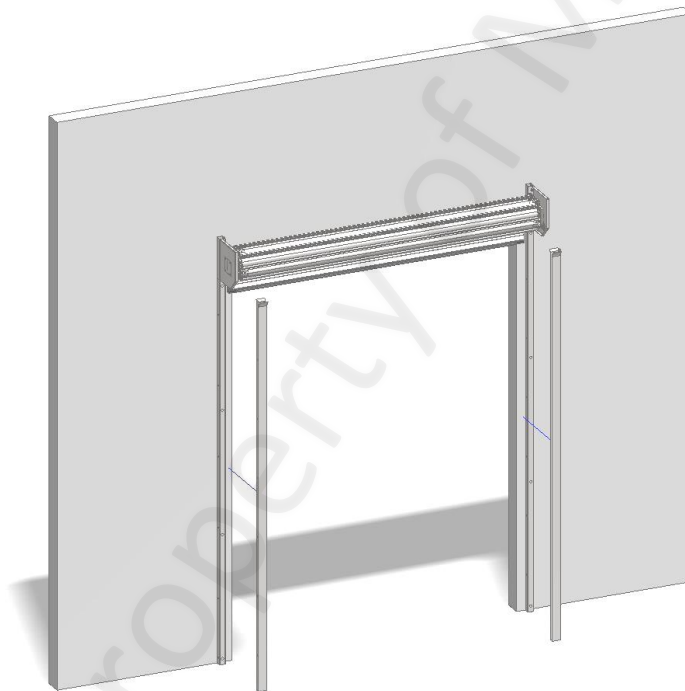
Step 11 : Fix the second armor set by installing the end clamps on the last profile.
Continue this operation until all armor sets are installed.



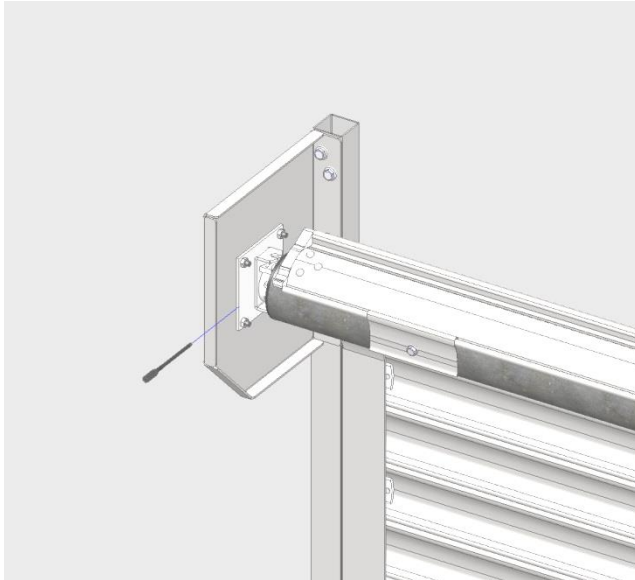
Step 12 : After the installation of the armor, the shutter must be rolled up. The bottom profile has to be aligned with the bottom of the support consoles.



Step 13 : Reinstall the side guides.

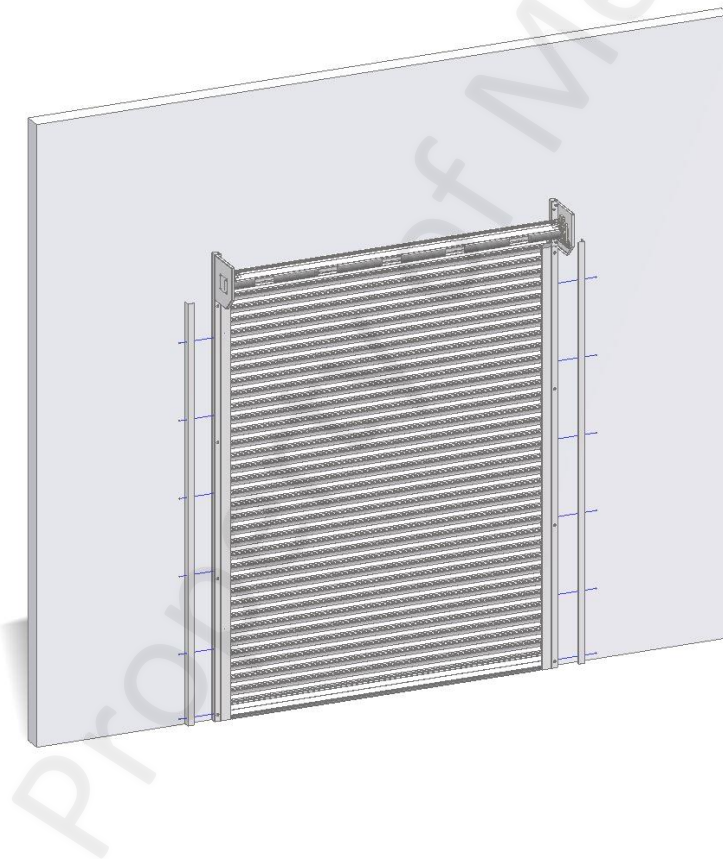


Step 14 : Adjust the motor's limit switches. Refer to the motor manufacturer's instructions.

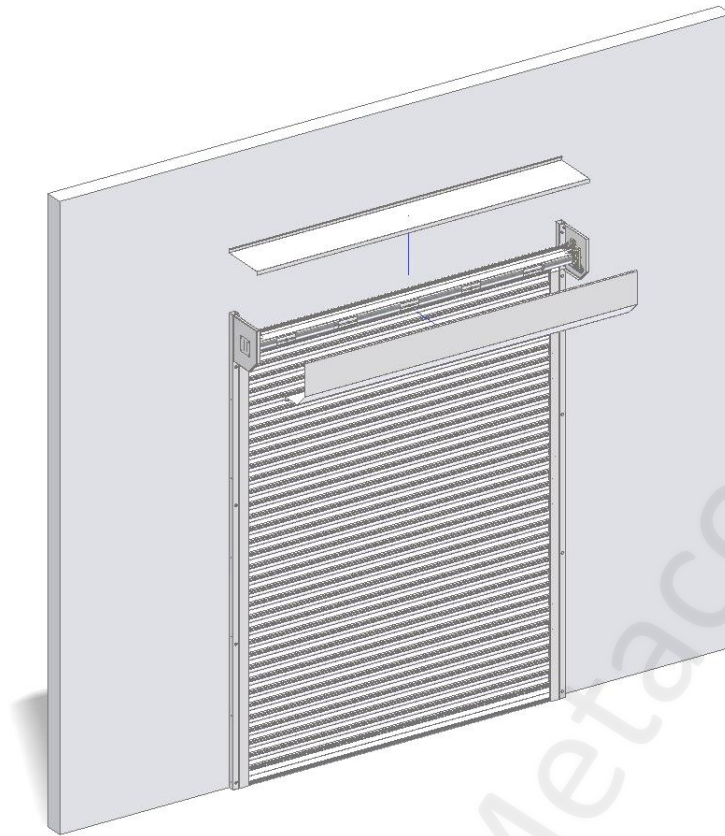


Step 15 : Ensure the smooth functioning of the shutter by opening and closing the shutter a couple of times.

Step 16: *Optional* : Install the side covers on the supports.



Step 17 : *Optional* : Install the encasing parts.



8 Usage

A – Normal operation:

The flame resistant rolling shutter is opened by push button or key switch. The operator finds himself next to the shutter and maintains visual contact with the shutter while operating it. The control boxes (push button or key switch) are placed in close proximity of the shutter and are put in a hold-to-run configuration, this means that if the control command is interrupted, the shutter immediately comes to a full stop.

B –Operation in case of fire (or testing procedure):

Note : only applies when the shutter is connected to a fire alarm (smoke or heat detection)

When the fire resisting rolling shutter is in open position when smoke, heat build up or fire are detected, the shutter will be closed automatically by the steering unit.

The descending speed of the shutter is equal to the normal operation speed.

It is strictly prohibited to place any objects or materials under the fire resisting rolling shutter !

9 Maintenance

To ensure the correct functioning of the installation, it is necessary to schedule regular maintenance (depending on the daily use of the shutter). When there's not at least an annual maintenance (min. 1x a year), the warranty will be invalidated. Metacon B.V. advises to arrange for a maintenance contract with the installation company. The maintenance procedures must be executed by a proper and certified installation company .

The following points have to be checked during maintenance :

- Visual verification of all parts (damage)
- Inspection of the fasteners
- Tolerance armor/guides/labyrinth
- Alignment armor / main shaft
- Inspection of cables / wires
- Check the normal operation of the shutter
- Check the operation of the shutter in alarm mode(fire simulation)
- Inspection of the peripherals

Every flame resistant rolling shutter is provided with an identification tag, stating the type, delivery date, production date, weight and production number. In case of malfunctioning of the flame resistant rolling shutter, the production number must be communicated to the installation company. Metacon B.V. keeps a technical dossier of production number in its archives.

10 Malfunctioning and repairing

When performing maintenance or repairs, the installation must be set voltage free. Troubleshooting and repairing must be performed by the installation company named in the maintenance contract. A list of possible malfunctions is presented below. Contact the installation company in case of a malfunction that is not listed in this manual. If the installation company is not able to resolve the malfunction, Metacon B.V. can be contacted for further instructions.

Malfunction	Solution
Normal operation failure	Check the diagnostic output on the steering unit in its manual
Armor jams / fails to close	Check the alignment of the armor and the side guides. Ensure there are no obstacles underneath the shutter.
Wrong direction while operating	Phases changed

11 Storage and transport

Before transport, all parts are wrapped in plastic film or cover. It is however advised to store the the products inside. All parts are provided with a surface treatment. If damaged, the lifetime of the product can be considerably reduced.

Transportation is relatively simple since Metacon B.V. only supplies semi-finished products.

It may happen that some parts can not be manipulated by two persons. This must be taken into count regarding the European safety regulations.

12 Environment and decommissioning

The local environmental regulations must be respected (waste separation). To uninstall the product, apply the inverted installation procedure (see 7).